REMARKS

Status of the Claims

Prior to the amendments set forth herein, Claims 9-33 were pending and Claims 15-29 were withdrawn from consideration subject to applicants' right to pursue the subject matter of these claims in a separate application. The remaining claims (9-14 and 30-33) stand rejected. Claims 9-11 and 31 have been amended as set forth above, and Claim 30 has been canceled. No new matter is presented in the foregoing amendments. It is believed that Claims 9-14 and 31-33 are in condition for allowance in view of the foregoing amendments and the following comments.

Rejections under 35 U.S.C. § 112, first paragraph - written description

Claims 9-14 and 31-33 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement, by containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art to use the invention that the inventors, at the time the application was filed, had possession of the claimed invention. The Examiner asserted that amended Claims 9 and 11 do not disclose an adequate number of species to warrant a claim to a genus encompassing a nucleic acid having 80% identity to any molecule having a sequence related to SEQ ID NO:1, as recited in the claims, and having "the same reporter function" of any DNA molecule comprising the recited sequence.

To facilitate prosecution, Claims 9 and 11 have been amended to delete the reference to a second DNA segment which is 80% identical to a portion of the first segment having a sequence related to SEQ ID NO:1, and deleting the word "first" which appears before the word "segment." Claim 30, which recites a transgenic fish having DNA consisting of the first DNA segment, was canceled. Claim 10 (directed to a zebrafish cell) and Claim 31 (directed to a transgenic

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zebrafish) were amended to recite the previous limitations relating to the second DNA segment, but now specify that the DNA segment in this claim is 98% identical to and having the same reporter function as nucleotides 3005-4336 of SEQ ID NO:1 contiguous to nucleotides 1-243 of SEQ ID NO:1. Support for at least 98% identity (including at least 90% and 95% identity) can be found on page 9 and elsewhere in the original application. Dependent Claims 32 and 33, which relate to nucleotides encoding wild-type GFP and variants thereof, were not amended. The applicants respectfully request that the rejection of Claims 9-14 and 31-33 under 35 U.S.C. § 112, first paragraph (written description) be reconsidered and withdrawn in view of these amendments and remarks.

Rejections under 35 U.S.C. § 112, first paragraph - enablement

Claims 9-14 and 31-33 also stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement, by not reasonably providing enablement for any person skilled in the art to make the invention commensurate with the scope of the pending claims. The Examiner maintains his position that making the claimed invention would require undue experimentation. The Examiner asserts that the claims allow for substantial variation within the promoter sequence, while requiring that the modified nucleic acid maintain reporter function.

In view of the amendments described above, Claims 9 and 11-14 describe cells and transgenic zebrafish comprising a specific reporter nucleic acid. Claims 10 and 31-33 describe cells and transgenic zebrafish having a reporter nucleic acid which is 98% identical across one or more portions of the specific reporter nucleic acid described in Claims 9-14. It is well within the ordinary skill of one skilled in the arts of constructing reporter nucleic acids or producing transgenic zebrafish to construct and test the functional ability of reporter nucleic acids that are 98% identical to those described and claimed in Claims 9-14. The applicants respectfully

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request that the rejection of Claims 9-14 and 31-33 under 35 U.S.C. § 112, first paragraph (enablement) be reconsidered and withdrawn in view of these amendments and remarks.

Rejections under 35 U.S.C. § 112, first paragraph - written description

Claims 9-14 and 30-33 stand newly rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement, by containing new subject matter which was not described in the specification in such a way as to convey to one skilled in the art that the inventors had possession of the claimed invention at the time the application was filed.

To facilitate prosecution, as noted above, the language which relates to reporter nucleic acids having less than 100% identity to portions of SEQ ID NO:1 is now isolated in Claims 10 and 31, and the % identity increased from 80% to 98%. The language used in these claims is directly supported by the specification which states that the reporter DNA molecule comprises nucleotides 3005-4336 of SEQ ID NO:1 contiguous to nucleotides 1-243 of SEQ ID NO:1, and that other embodiments include DNA molecules comprising a nucleotide sequence having at least 80%, 90%, 95%, or 98% identity with this sequence and having the same reporter function. The Applicants respectfully request that the rejection of Claims 9-14 and 31-33 under 35 U.S.C. § 112, first paragraph (written description) be reconsidered and withdrawn in view of these amendments and remarks.

Rejections under 35 U.S.C. § 102

The prior rejection of Claim 9, under 35 U.S.C. § 103(a), as being unpatentable over Korinek et al., (1997) *Science* 275:1784-1787, in view of Li et al. (2000) U.S. 6,130,313, was withdrawn in favor of a new rejection under 35 U.S.C. § 102(b) as being anticipated by Korinek et al., as evidenced by the online datasheet provided by Invitrogen for the pcDNAI/Neo/Vector. The Examiner asserts that the claim, which is directed to a host cell

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harboring a vector, is insufficiently distinguishable from a host cell harboring the pTOPFLASH vector containing a reporter gene.

To facilitate prosecution, Claim 9 was amended to incorporate the previous limitation of Claim 10 which specified that the host cell is a zebrafish cell. Claim 9 now recites "A zebrafish cell comprising . . ." instead of "A host cell comprising . . ." In addition, Claim 9 has been amended to delete references to the "second DNA segment which is at least 80% identical to the first DNA segment" which formed the Examiner's basis for this rejection. Claim 10 has also been amended, as noted above, to recite a zebrafish cell comprising a nucleotide sequence which is 98% identical to a portion of SEQ ID NO:1. Korinek et al. does not disclose zebrafish cells. The applicants respectfully request that the rejection of Claim 9 be reconsidered and withdrawn in view of these amendments and remarks.

CONCLUSIONS

In view of the foregoing amendments and comments, it is believed that Claims 9-14 and 31-33 are in condition for allowance. Entry of the foregoing amendments and favorable action are requested. Please contact the applicants' representative at the number set forth below to discuss any issues that will facilitate the prosecution of this application.

Respectfully submitted,

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